ministered by the foundation, which was organized in 1935. The work of the holders of present fellowship awards is in the fields of physical chemistry, biochemistry and biophysics, and the institutions at which the researches are being conducted include the University of Oxford, Cornell University, Princeton University, the Johns Hopkins University, the Massachusetts Institute of Technology and the Johnson Institute of Biophysics of the University of Pennsylvania. The present war has caused almost complete abandonment of fundamental research in the belligerent countries, but the fellows who originally planned to work abroad have been able to make other plans for the coming year.

The awards in the 1940–41 series will be given for fundamental research work in any field of chemistry. Support for industrial research is not intended. The awards are open to both men and women and for work anywhere in the United States or abroad. Men and women in academic service who may be on leave of absence are among those eligible for appointment. Attainment of the degree of Ph.D. or training equivalent thereto is a requirement for candidacy. The final selections will be based on previous training, demonstrated competence and the promise of the candidates in their special fields of work.

It is pointed out in the official announcement that one of the important needs in science is to develop men who have a thorough background and training in fundamental chemical research and who have also adequate experience in the biological and medical sciences, qualifying them to attack with basic understanding research problems in the fields of biochemistry and chemotherapy. Accordingly, for a part of the Lalor awards, preference will be given to candidates directing their research toward applying the principles and discoveries of physical and organic chemistry to problems within these latter fields.

The qualifications of candidates will be passed upon by a selection committee consisting of Drs. C. A. Kraus, of Brown University; Arthur B. Lamb, of Harvard University; Roger Adams, of the University of Illinois; Hans T. Clarke, of Columbia University, and the secretary of the foundation.

Inquiries and requests for application forms for awards should be addressed to C. Lalor Burdick, Secretary, Lalor Foundation, Wilmington, Delaware. Applications should be in his hands by December 31, and appointments will be announced early in March, 1940.

SYMPOSIUM ON CRYOGENIC RESEARCH OF THE AMERICAN CHEMICAL SOCIETY

ON September 11, the week of the Boston meeting of the American Chemical Society, the Division of Inorganic and Physical Chemistry sponsored a symposium on Cryogenic Research, held at the George Eastman Laboratories of the Massachusetts Institute of Technology. It was at the Rochester meeting two years ago that the first symposium held in the United States for the presentation of papers and discussion on low temperature methods and research took place. The recent meeting furnished convincing evidence of an astonishing increase in interest, equipment and volume of research over the two-year interval. Our scientific colleagues from the Cryogenic Laboratory of the University of Toronto, H. Grayson Smith and J. O. Wilhelm, contributed two papers, and the Mond Laboratory of Cambridge, England, was represented by Dr. D. Shoenberg, who contributed a paper on super-electrical conductivity. Papers were presented also by representatives of the cryogenic laboratories of the National Bureau of Standards (F. G. Brickwedde, R. B. Scott, H. J. Hoge), the University of California at Berkeley (W. F. Giauque and J. W. Stout), the Pennsylvania State College (J. G. Aston and G. H. Messerly), the Johns Hopkins University (W. T. Ziegler), the California Institute of Technology (Alexander Goetz and A. Dember), Columbia University (H. A. Boorse, V. W. Cohen, C. Williams, S. L. Quimby), Cornell University (J. G. Kirkwood) and the Massachusetts Institute of Technology (S. C. Collins, R. B. Jacobs, C. Starr, C. C. Stephenson, J. G. Hooley, J. A. Beattie, B. E. Blaisdell, J. Kaye, C. A. Johnson and H. T. Gerry).

The symposium was in part devoted to the consideration of techniques and methods adapted to improving the precision and scope of a wide range of types of measurements at the lowest temperatures. The bulk of the day, however, was occupied with reports on the peculiarities of the heat capacities and thermodynamic properties of a variety of substances, the velocity of sound in liquid helium, its viscosity and flow peculiarities, phase transitions of the second kind, electrical superconductivity as related to conductor size, x-ray reflection intensities, thermal and magnetic properties of the para-magnetic salt nickel sulphate heptahydrate, among other items.

Professor Alexander Goetz gave a survey drawing attention to the remarkable advantages for many purposes which the special properties of matter at very low temperatures possess. The low temperature preservation of cell life, for example, should be of immediate practical interest in preserving many kinds of cells—blood corpuscles of varied types, for instance.

The most serious present obstacle to the rapid development of a more detailed and profound knowledge of the properties of matter and associated phenomena lies in the expensive equipment and the danger attending the manipulation of hydrogen and gases generally under high pressure. In this connection the report by the Massachusetts Institute of Technology group (S. C. Collins and R. B. Jacobs) of progress in the attempt to develop inexpensive mechanical means for continuously maintaining sub-hydrogen tempera-

tures was of general interest. If the difficulties of design and operation of a really low temperature engine (10° K level) can be solved, a substantial advance will have been made in promoting the conditions for larger scale and safer operations in a fascinating world of strange and as yet imperfectly understood phenomena.

The enthusiasm and greatly widened interest manifest throughout the course of the symposium warrant the belief that the United States in a very short time will be contributing cryogenic research results commensurate with the resources of the country.

F. G. KEYES

SCIENTIFIC LECTURES OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

THE first of the annual scientific lectures of the College of Physicians of Philadelphia was the Mary Scott Newbold lecture XLV, which was given on October 4 by Dr. Alfred Blalock, professor of surgery at Vanderbilt University. He spoke on "Shock."

The lectures for 1939 to 1940 are given at 8:30 P.M. on the first Wednesday of each month from October to May. The program follows:

November—James M. Anders Lecture XIV. Rolla E. Dyer, chief, Division of Infectious Diseases, U. S. Public Health Service. "Animal Diseases Transmissible to Man, with Special Reference to Typhus Fever, Spotted Fever, Undulant Fever and Tularemia."

December—Thomas Dent Mütter Lecture LII. Howard T. Karsner, professor of pathology, director of Institute of Pathology, Western Reserve University. "Certain Ovarian Tumors Associated with Sexual Endocrine Dysfunction."

January—James M. Anders Lecture XV. Charles Armstrong, senior surgeon, U. S. Public Health Service. "Recent Developments in Central Nervous System Virus Infections, with Special Reference to Lymphocytic Meningitis and Poliomyelitis."

February—Mary Scott Newbold Lecture XLVI. Tom D. Spies, associate professor of medicine, University of Cincinnati. "Clinical and Laboratory Studies on the Avitaminoses, with Special Reference to Nicotinic Acid, Thiamin and Riboflavin."

March—Mary Scott Newbold Lecture XLVII. Alvin F. Coburn, assistant professor of medicine, Columbia University. "Factors in the Initiation of Rheumatic Activity."

April—Balduin Lucké, professor of pathology, University of Pennsylvania. "Tumors in Cold-Blooded Animals; Their Significance in the Experimental Investigation of Cancer." Joseph McFarland, emeritus professor of pathology, University of Pennsylvania. "The Pathological Diagnosis of Cancer in Man."

May—Nathan Lewis Hatfield Lecture XXIII. Lecture and subject to be announced.

The following lectures for the general public are announced:

November 17, 1939—O. H. Perry Pepper, professor of medicine, University of Pennsylvania. "Medical Problems of Advancing Age."

January 19, 1940—J. Parsons Schaeffer, professor of anatomy and director of the Daniel Baugh Institute of Anatomy, Jefferson Medical College. "The Human Constitution and Some of Its Problems."

April 12—W. Edward Chamberlain, professor of radiology and roentgenology, Temple University. "The X-Ray as an Aid in Diagnosis."

MEDICAL EDUCATION AT THE UNIVERSITY OF CHICAGO

DECISIONS affecting medical education on the west side of Chicago have been announced by President Robert M. Hutchins, of the University of Chicago, and John McKinlay, president of the Board of Managers of the Presbyterian Hospital. The university has decided to terminate undergraduate medical education at the Rush Medical College. The Board of Managers of the Presbyterian Hospital has voted that the hospital remain as at present on the west side of Chicago.

As a result of these decisions, the university will establish a program of graduate medical education at the Rush Medical College and committees will be appointed to formulate plans for a Graduate School, which it is hoped will be opened in the near future. It will emphasize research in medical science and provide training for graduates of medical schools in the various fields of specialization.

Undergraduate work will continue, however, at the Rush Medical College till July, 1942, to provide completion of training for the class entering next autumn. Undergraduate training also will continue at the south side medical school and after 1942 will be offered there exclusively.

The decision to establish the Rush Medical College as a center of graduate medical training terminates discussions as to its ultimate status which have been carried on intermittently since 1916. In that year the university approved plans for the south side school, which was opened in the autumn of 1927.

Rush Medical College, chartered in 1837 and in operation since 1842, was the pioneer medical school of the Middle West. It was merged with the university in 1924 after twenty-six years of affiliation.

GRANTS IN AID OF RESEARCH OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

AT its annual meeting each year the council of the American Association votes a number of grants in aid of research. In order that applications for such grants may be examined and passed on by the committee on grants in time for the annual meeting, they must be filed in the office of the permanent secretary